SOCIETA' ITALIANA DI FISICA

RENDICONTI
DELLA
SCUOLA INTERNAZIONALE DI FISICA
«ENRICO FERMI»

LXVI Corso

Health and Medical Physics

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ITALIAN PHYSICAL SOCIETY

PROCEEDINGS

OF THE

INTERNATIONAL SCHOOL OF PHYSICS « ENRICO FERMI »

COURSE LXVI

edited by J. BAARLI

Director of the Course

VARENNA ON LAKE COMO

VILLA MONASTERO

28th JULY - 9th AUGUST 1975

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Direttore del Corso

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BOLOGNA - ITALY

Foreword.

J. BAARLI

Health Physics Division, CERN - 1211 Genéve 23

The 66th Course of the « Enrico Fermi » International School of Physics was devoted to Health and Medical Physics, a subject which was selected in view of the growing importance of this particular field of applied physics. Traditionally, health and medical physics have been concerned primarily with ionizing radiation and radioactivity. Since this course was the first of its type, it was considered to be of interest to emphasize the physics in connection with the application of ionizing radiation in medicine and the particular problems of its implication in health. For this reason the subjects chosen and presented in these Proceedings are those where the methods have been extensively studied and are considered to be well established. Some other subjects which are in a stage of development are also included to give an impression of future aspects.

The course was divided into six chapters, dealing with basic physics for application of ionizing radiation, diagnostics, therapy, radiation protection and computer applications. The School was very fortunate in being able to assemble as teachers some of those who are in the forefront in the world in these fields, and the director is grateful for their effort to present the subjects in the most advanced and yet understandable way. It is hoped that these Proceedings will be of value to the reader as a source book and a book of easy access to some of the bases in health and medical physics. I also greatly appreciate the effort of and the assistance given to me by the Italian Physics Society and am grateful for the confidence in choosing me as the director for this course.

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B. LARSSON – Proton and heavy-ion theraphy.